

WHAT IS CLAIMED IS:

1. A combination lock having a shape of inverted U, comprising:

a male locking mechanism comprising cylindrical first and second collars at both ends, each of the first and the second collars including a cable extended therefrom, a cylindrical cavity, and an aperture on its outer surface; a cylindrical member including a projected shaft at one end thereof, a keyhole at the other end thereof, and an aperture on its outer surface; a ridged section including a plurality of aligned first grooves; a guard including a trough on a bar at one end and an aperture on a outer surface at the other end; and a first pin inserted into the aperture of the second collar, the aperture of the guard, and the aperture of the cylindrical member sequentially for fastening them together in the cylindrical cavity of the second collar wherein the shaft is inserted through the first grooves into the trough;

a push ring comprising two opposite projections at one side and first, second, third, and fourth teeth around the other side wherein a gap between two adjacent teeth is disposed at an angle of 45 degrees about an adjacent gap;

a hollow spindle comprising a top elongated second groove, a plurality of peripheral risers at the other end, two side first recesses adjacent the risers, an arcuate second recess between two risers, a plurality of aligned spaced protuberances on an outer surface, and an aperture on the outer surface adjacent one end;

a sealing ring comprising two opposite interior slots, a spring depressible detent radially extended inside the sealing ring to urge against the spindle, and an interior protrusion on an inner wall moveable in the second recess;

an abutment ring received at one end of the sealing ring, the abutment ring including two opposite wells at the other side for permitting the projections to

anchor therein after passing the sealing ring;

a plurality of number rings each comprising a plurality of numerals printed sequentially on its outer surface, a plurality of peripheral indentations on an inner wall, an interior first ring having a tab projected upward to engage with one of the indentations and a valley opposite the tab, an interior second ring,
5 and a resilient section fastened between the first and the second rings;

a spring in the cylindrical cavity of the first collar urged against the second ring of the number ring proximate the first collar; and

a second pin inserted into the aperture of the first collar and the aperture of
10 the spindle sequentially for fastening them together,

wherein the combination lock still can be opened without its password by inserting a key into the keyhole prior to turning an angle of 90 degrees of the key, the ridged section is changed from a relatively higher position to a relatively lower one for disengaging the male locking mechanism from the combination
15 lock for subsequent removal of the male locking mechanism;

an alignment of the valleys can help the user know the forgot password;

the password is adapted to reset after opening the combination lock by pushing the push ring toward one end of the combination lock until the detent reaches the second tooth, the projections urge against the abutment ring, and
20 one of the indentations clears from the tab, and turning the number rings; and

a locking of the combination lock is done by turning the sealing ring in one direction to cause the detent to reach the third tooth, urging the spring against the push ring for causing the detent to reach the fourth tooth, turning the sealing ring in an opposite direction until the detent reaches the first tooth for
25 positioning, engaging one of the indentations with the tab of each first ring for fastening, and inserting the male locking mechanism through the number rings.

2. The combination lock of claim 1, wherein the number of the number rings is

four.

3. The combination lock of claim 1, wherein the numerals on the number ring comprise 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

4. A combination lock having a shape of inverted U, comprising:

5 a male locking mechanism comprising cylindrical first and second collars at both ends, each of the first and the second collars including a cable extended therefrom, a cylindrical cavity, and an aperture on its outer surface; a cylindrical member including a projected shaft at one end thereof, a keyhole at the other end thereof, and an aperture on its outer surface; a ridged section including a
10 plurality of aligned first grooves; a guard including a trough on a bar at one end and an aperture on a outer surface at the other end; and a first pin inserted into the aperture of the second collar, the aperture of the guard, and the aperture of the cylindrical member sequentially for fastening them together in the cylindrical cavity of the second collar wherein the shaft is inserted through the first grooves
15 into the trough;

a push ring comprising two opposite projections at one side and first, second, third, and fourth teeth around the other side wherein a gap between two adjacent teeth is disposed at an angle of 45 degrees about an adjacent gap;

20 a hollow spindle comprising a top elongated second groove, a plurality of peripheral risers at the other end, two side first recesses adjacent the risers, an arcuate second recess between two risers, a plurality of aligned spaced protuberances on an outer surface, and an aperture on the outer surface adjacent one end;

25 a sealing ring comprising two opposite interior slots, a spring depressible detent radially extended inside the sealing ring to urge against the spindle, and an interior protrusion on an inner wall moveable in the second recess;

an abutment ring received at one end of the sealing ring, the abutment ring including two opposite wells at the other side for permitting the projections to anchor therein after passing the sealing ring;

5 a plurality of number rings each comprising a plurality of numerals printed sequentially on its outer surface, a plurality of peripheral indentations on an inner wall, an interior first ring having a tab projected upward to engage with one of the indentations and a valley opposite the tab, an interior second ring, a resilient section fastened between the first and the second rings, and an inner ring;

10 a spring in the cylindrical cavity of the first collar urged against the second ring of the number ring proximate the first collar; and

a second pin inserted into the aperture of the first collar and the aperture of the spindle sequentially for fastening them together,

wherein the combination lock still can be opened without its password by
15 inserting a key into the keyhole prior to turning an angle of 90 degrees of the key, the ridged section is changed from a relatively higher position to a relatively lower one for disengaging the male locking mechanism from the combination lock for subsequent removal of the male locking mechanism;

an alignment of the valleys can help the user know the forgot password;
20 the password is adapted to reset after opening the combination lock by pushing the push ring toward one end of the combination lock until the detent reaches the second tooth, the projections urge against the abutment ring, and one of the indentations clears from the tab, and turning the number rings; and

a locking of the combination lock is done by turning the sealing ring in one
25 direction to cause the detent to reach the third tooth, urging the spring against the push ring for causing the detent to reach the fourth tooth, turning the sealing ring in an opposite direction until the detent reaches the first tooth for

positioning, engaging one of the indentations with the tab of each first ring for fastening, and inserting the male locking mechanism through the number rings.

5. The combination lock of claim 4, wherein the numerals on the number ring comprise 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

5 6. The combination lock of claim 4, wherein the number of the number rings is two.